

What is claimed is:

1 1. A recording apparatus comprising:

2                   a recording unit operable to record video data and  
3 playback control information corresponding to the video data onto  
4 a recording medium, the playback control information controlling  
5 playback operation of a playback apparatus;

6                   a detecting unit operable to detect an abnormality which  
7 indicates that the recording unit abnormally stopped recording of  
8 a piece of video data and failed to record a corresponding piece  
9 of playback control information onto the recording medium;

10                  a generating unit operable to, when the detecting unit  
11 detects the abnormality, generate a piece of playback control  
12 information corresponding to the piece of video data which was  
13 abnormally stopped being recorded; and

14                  a controlling unit operable to control the recording  
15 unit to record the generated piece of playback control information  
16 onto the recording medium.

1 2. The recording apparatus of Claim 1, wherein

2                  each piece of playback control information contains  
3 section information indicating a playback section of a  
4 corresponding piece of video data to the playback apparatus.

1 3. The recording apparatus of Claim 2, wherein

2                  the detecting unit detects that the recording unit

3 abnormally stopped recording of a piece of video data due to lack  
4 of recording space in the recording medium, and  
5 the controlling unit deletes from the recording medium  
6 the end portion of the piece of video data which was abnormally  
7 stopped being recorded and controls the recording unit to record  
8 the generated piece of playback control information onto the  
9 recording medium.

1 4. The recording apparatus of Claim 3, wherein  
2 each piece of video data includes a plurality of video  
3 units, and  
4 the controlling unit deletes from the recording medium  
5 the last, incomplete video unit of the piece of video data which  
6 was abnormally stopped being recorded, as the end portion  
7 thereof.

1 5. The recording apparatus of Claim 3, wherein  
2 each piece of playback control information further  
3 contains an address table that includes discrete recording  
4 addresses of video data, the address table being referred to by  
5 the playback apparatus for a fastforward playback and a rewinding  
6 playback, and  
7 the recording apparatus further comprises  
8 a storing unit operable to store video unit information  
9 which shows recording addresses and sizes of video units included

10 in a piece of video data that is being recorded by the recording  
11 unit, wherein

12 the generating unit generates a piece of playback  
13 control information in accordance with the video unit information  
14 stored in the storing unit, and

15 the controlling unit calculates a size of the piece of  
16 video data using the video unit information, the calculated size  
17 being less than the actual size of the piece of video data having  
18 been recorded by the recording unit, and deletes the end portion  
19 of the piece of video data having a size obtained by subtracting  
20 the calculated size from the actual size.

1 6. The recording apparatus of Claim 2, wherein

2 the detecting unit detects that the recording unit  
3 abnormally stopped recording of a piece of video data because a  
4 power supply to the recording apparatus had stopped during  
5 recording of video data.

1 7. The recording apparatus of Claim 6, wherein

2 each piece of video data includes a plurality of video  
3 units,

4 each piece of playback control information further  
5 contains an address table that includes discrete recording  
6 addresses of video data, the address table being referred to by  
7 the playback apparatus for a fastforward playback and a rewinding

8 playback, and

9                   the recording apparatus further comprises  
10                   a storing unit operable to store video unit information  
11                   into a nonvolatile memory, the video unit information showing  
12                   recording addresses and sizes of video units included in a piece  
13                   of video data that is being recorded by the recording unit,  
14                   wherein

15                   the detecting unit detects whether a power failure  
16                   occurred during recording of video data by referring to the  
17                   nonvolatile memory immediately after the recording apparatus is  
18                   powered on, and

19                   the generating unit generates a piece of playback  
20                   control information in accordance with the video unit information  
21                   stored in the nonvolatile memory when the detecting unit detects  
22                   that the power failure occurred.

1 8. The recording apparatus of Claim 6, wherein

2                   each piece of video data includes a plurality of video  
3                   units, and

4                   the controlling unit deletes from the recording medium  
5                   the last, incomplete video unit of the piece of video data which  
6                   was abnormally stopped being recorded.

1 9. The recording apparatus of Claim 8, wherein

2                   the controlling unit calculates a size of the piece of

3 video data which was abnormally stopped being recorded, using the  
4 video unit information, the calculated size being less than the  
5 actual size of the piece of video data having been recorded by the  
6 recording unit, and deletes the incomplete video unit having a  
7 size obtained by subtracting the calculated size from the actual  
8 size.

1 10. A recording apparatus comprising:

2 a recording unit operable to record video data and  
3 playback control information corresponding to the video data onto  
4 a recording medium, the playback control information controlling  
5 playback operation of a playback apparatus;

6 a detecting unit operable to detect that the recording  
7 unit stopped recording due to lack of recording space in the  
8 recording medium;

9 a generating unit operable to, when the detecting unit  
10 detects that the recording unit stopped recording, generate a  
11 piece of playback control information corresponding to the piece  
12 of video data which was abnormally stopped being recorded; and

13 a controlling unit operable to delete from the recording  
14 medium the end portion of the piece of video data which was  
15 stopped being recorded and controls the recording unit to record  
16 the generated piece of playback control information onto the  
17 recording medium.

1 11. A recording apparatus comprising:

2                   a recording unit operable to record video data and  
3 playback control information corresponding to the video data onto  
4 a recording medium, the playback control information containing  
5 (a) section information indicating a playback section of a  
6 corresponding piece of video data to the playback apparatus and  
7 (b) an address table that includes discrete recording addresses of  
8 video data, the address table being referred to by the playback  
9 apparatus for a fastforward playback and a rewinding playback;

10                  a storing unit operable to store video unit information  
11 into a nonvolatile memory, the video unit information showing  
12 recording addresses and sizes of video units included in a piece  
13 of video data that is being recorded by the recording unit,  
14 wherein

15                  the detecting unit operable to detect whether the  
16 recording unit abnormally stopped recording of a piece of video  
17 data due to a stoppage of power supply to the recording  
18 apparatus;

19                  a generating unit operable to, when the detecting unit  
20 detects that the recording unit abnormally stopped recording,  
21 generate a piece of playback control information corresponding to  
22 the piece of video data which was abnormally stopped being  
23 recorded; and

24                  a controlling unit operable to control the recording  
25 unit to record the generated piece of playback control information

26 onto the recording medium.

1 12. A recording method comprising:

2 a first recording step for recording video data and  
3 playback control information corresponding to the video data onto  
4 a recording medium, the playback control information controlling  
5 playback operation of a playback apparatus;

6 a detecting step for detecting an abnormality which  
7 indicates that the recording step abnormally stopped recording of  
8 a piece of video data and failed to record a corresponding piece  
9 of playback control information onto the recording medium;

10 a generating step for, when the detecting step detects  
11 the abnormality, generating the piece of playback control  
12 information corresponding to the piece of video data which was  
13 abnormally stopped being recorded; and

14 a second recording step for recording the generated  
15 piece of playback control information onto the recording medium.

1 13. The recording method of Claim 12, wherein

2 each piece of playback control information contains  
3 section information indicating a playback section of a  
4 corresponding piece of video data to the playback apparatus.

1 14. The recording method of Claim 13, wherein

2 the detecting step detects that the recording step

3 abnormally stopped recording of a piece of video data due to lack  
4 of recording space in the recording medium, and  
5 the second recording step deletes from the recording  
6 medium the end portion of the piece of video data which was  
7 abnormally stopped being recorded and records the generated piece  
8 of playback control information onto the recording medium.

1 15. The recording method of Claim 13, wherein  
2 the detecting step detects that the recording step  
3 abnormally stopped recording of a piece of video data because a  
4 power supply to the recording medium had stopped during recording  
5 of video data.

1 16. The recording method of Claim 15, wherein  
2 each piece of video data includes a plurality of video  
3 units,  
4 each piece of playback control information further  
5 contains an address table that includes discrete recording  
6 addresses of video data, the address table being referred to by  
7 the playback apparatus for a fastforward playback and a rewinding  
8 playback, and  
9 the recording method further comprises  
10 a storing step for storing video unit information into  
11 a nonvolatile memory, the video unit information showing recording  
12 addresses and sizes of video units included in a piece of video

13 data that is being recorded in the recording step, wherein  
14 the detecting step detects whether a power failure  
15 occurred during recording of video data by referring to the  
16 nonvolatile memory immediately after the recording apparatus is  
17 powered on, and

18 the generating step generates a piece of playback  
19 control information in accordance with the video unit information  
20 stored in the nonvolatile memory when the detecting step detects  
21 that the power failure occurred.

1 17. A computer-readable recording medium storing a program that  
2 allows a computer in a recording apparatus to execute:

3 a first recording step for recording video data and  
4 playback control information corresponding to the video data onto  
5 a recording medium, the playback control information controlling  
6 playback operation of a playback apparatus;

7 a detecting step for detecting an abnormality which  
8 indicates that the recording step abnormally stopped recording of  
9 a piece of video data and failed to record a corresponding piece  
10 of playback control information onto the recording medium;

11 a generating step for, when the detecting step detects  
12 the abnormality, generating the piece of playback control  
13 information corresponding to the piece of video data which was  
14 abnormally stopped being recorded; and

15 a second recording step for recording the generated

16 piece of playback control information onto the recording medium.

1 18. The recording medium of Claim 17, wherein  
2 each piece of playback control information contains  
3 section information indicating a playback section of a  
4 corresponding piece of video data to the playback apparatus.

1 19. The recording medium of Claim 18, wherein  
2 the detecting step detects that the recording step  
3 abnormally stopped recording of a piece of video data due to lack  
4 of recording space in the recording medium, and  
5 the second recording step deletes from the recording  
6 medium the end portion of the piece of video data which was  
7 abnormally stopped being recorded and records the generated piece  
8 of playback control information onto the recording medium.

1 20. The recording medium of Claim 18, wherein  
2 the detecting step detects that the recording step  
3 abnormally stopped recording of a piece of video data because a  
4 power supply to the recording medium had stopped during recording  
5 of video data.

1 21. The recording medium of Claim 20, wherein  
2 each piece of video data includes a plurality of video  
3 units,

4                   each piece of playback control information further  
5   contains an address table that includes discrete recording  
6   addresses of video data, the address table being referred to by  
7   the playback apparatus for a fastforward playback and a rewinding  
8   playback, and

9                   the program further allows the computer to execute  
10                 a storing step for storing video unit information into  
11                 a nonvolatile memory, the video unit information showing recording  
12                 addresses and sizes of video units included in a piece of video  
13                 data that is being recorded in the recording step, wherein

14                 the detecting step detects whether a power failure  
15                 occurred during recording of video data by referring to the  
16                 nonvolatile memory immediately after the recording apparatus is  
17                 powered on, and

18                 the generating step generates a piece of playback  
19                 control information in accordance with the video unit information  
20                 stored in the nonvolatile memory when the detecting step detects  
21                 that the power failure occurred.

1   22. A program that allows a computer in a recording apparatus to  
2   execute:

3                 a first recording step for recording video data and  
4                 playback control information corresponding to the video data onto  
5                 a recording medium, the playback control information controlling  
6                 playback operation of a playback apparatus;

7                   a detecting step for detecting an abnormality which  
8    indicates that the recording step abnormally stopped recording of  
9    a piece of video data and failed to record a corresponding piece  
10   of playback control information onto the recording medium;

11                 a generating step for, when the detecting step detects  
12    the abnormality, generating the piece of playback control  
13    information corresponding to the piece of video data which was  
14    abnormally stopped being recorded; and

15                 a second recording step for recording the generated  
16    piece of playback control information onto the recording medium.

1    23. The program of Claim 22, wherein

2                 each piece of playback control information contains  
3    section information indicating a playback section of a  
4    corresponding piece of video data to the playback apparatus.

1    24. The program of Claim 23, wherein

2                 the detecting step detects that the recording step  
3    abnormally stopped recording of a piece of video data due to lack  
4    of recording space in the recording medium, and

5                 the second recording step deletes from the recording  
6    medium the end portion of the piece of video data which was  
7    abnormally stopped being recorded and records the generated piece  
8    of playback control information onto the recording medium.

1 25. The program of Claim 23, wherein  
2                   the detecting step detects that the recording step  
3 abnormally stopped recording of a piece of video data because a  
4 power supply to the recording medium had stopped during recording  
5 of video data.

1 26. The program of Claim 25, wherein  
2                   each piece of video data includes a plurality of video  
3 units,  
4                   each piece of playback control information further  
5 contains an address table that includes discrete recording  
6 addresses of video data, the address table being referred to by  
7 the playback apparatus for a fastforward playback and a rewinding  
8 playback, and  
9                   the program further allows the computer to execute  
10                  a storing step for storing video unit information into  
11 a nonvolatile memory, the video unit information showing recording  
12 addresses and sizes of video units included in a piece of video  
13 data that is being recorded in the recording step, wherein  
14                  the detecting step detects whether a power failure  
15 occurred during recording of video data by referring to the  
16 nonvolatile memory immediately after the recording apparatus is  
17 powered on, and  
18                  the generating step generates a piece of playback  
19 control information in accordance with the video unit information

20 stored in the nonvolatile memory when the detecting step detects  
that the power failure occurred.